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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,877	11/05/2001	Hakan Ozdemir	99-S-190 (1678-22-1)	8286

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STMICROELECTRONICS, INC.
MAIL STATION 2346
1310 ELECTRONICS DRIVE
CARROLLTON, TX 75006

EXAMINER	
MERCEDES, DISMERY E	
ART UNIT	PAPER NUMBER
2627	

NOTIFICATION DATE	DELIVERY MODE
12/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

angie.rodriguez@st.com
ip.us@st.com

Office Action Summary	Application No.	Applicant(s)	
	09/993,877	OZDEMIR, HAKAN	
	Examiner	Art Unit	
	DISMERY E. MERCEDES	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5-7 and 29-31* is/are allowed.

6)☒ Claim(s) *1-4,8-28 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/15/2009 has been entered.

Response to Arguments

2. Applicant's arguments filed 9/15/2009 have been fully considered but they are not persuasive. Applicant argues that "Leis et al refers to an optional DC-erase filed, but then never explains why such a DC-erase field is optional." However, the Examiner respectfully disagrees. Leis discloses that a DC field 731 may be optional (col.7, lines 45-60) and then continues to disclose that DC field 731 cannot be WBP (wide biphase) encoded (col.8, lines 39-43), therefore having the DC field is optional, allows then for the preamble to be WBP encoded, which Leis et al. discloses that used for encoding head position servo information recorded within embedded servo sectors on the storage disk, thus providing a more compact and higher efficiency servo address format enabling the use higher code rates (see col.3, lines 20-35 and lines 50-57). Furthermore, given the broadest interpretation of the claim, the examiner believes that the mere mention of having an optional DC field in the servo wedge, serves as anticipatory evidence for the claimed limitation.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 10/15/2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4,8-28,32 rejected under 35 U.S.C. 103(a) as being unpatentable over Turtle et al. (US 5,796,535) in view of Leis et al. (US 5,862,005).

As to Claim 1, Turtle et al. discloses a storage disk, comprising: a disk sector having a beginning and operable to store data (fig.2A-2b); and a servo wedge located at the beginning of the disk sector, the servo wedge having a portion that does not include a zero-frequency field and that is detectable during a spin-up of the disk without a prior detection of a zero-frequency field (fig.2B, preamble located at the beginning of the sector and does not include zero-frequency field and detectable during spin up of the disk without a detection of a zero-frequency field), and the servo wedge operable to provide an initial position of a read-write head relative to the disk after detection of the portion (col.4, lines 25-41; col.6, lines 32-37-wherein initial position of the head relative to the disk is obtained during spin up).

Tuttle fails to specifically disclose sector without zero-frequency field. However, Leis et al. discloses a disk drive wherein servo wedges may have an optional DC erase field (col.7,lines 45-60 and fig.4, wherein the DC field 731 is optional and col.8, lines 39-43-wherein Leis discloses that DC field cannot be WBP encoded). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the storage disk as disclosed by Tuttle et al with the teachings of Leis et al., because as disclosed by Leis et al, providing a DC field for initial positioning of the head relative to the disk is optional, thus providing a more compact and higher efficiency servo address format enabling the use higher code rates (see col.3, lines 20-35 and lines 50-57).

As to Claim 2, Turtle et al. further discloses the disk sector includes a track that is operable to store the data; and the servo wedge is operable to provide the initial position of the read-write head by identifying the track and is operable to identify the track during a subsequent read of the data from or write of the data to the track (col.4, lines 25-26 and 34-38 and col.6, lines 32-37).

As to claim 3, the combination of Turtle et al. in view of Leis further discloses a disk comprising disk sectors; servo wedges each detectable by a read head upon initial spin-up and identifying a respective disk sector (figs.2A-2B, col.4, lines 25-41 and 51-54; col.6, lines 32-37 of Tuttle et al.); and no zero-frequency spin-up fields associated with the servo wedges (col.7,lines 45-60 and fig.4, wherein the DC field 731 is optional, thus taking out the DC field, leaves the servo wedge with no zero frequency spin up field associated with the servo wedge--See Claim 1).

As to Claim 4, Turtle et al. further discloses the data sectors comprise tracks (fig.2A); and each servo wedge identifies and is located in a respective track (fig.2B each servo wedge is located and identifies a respective track-col.4, lines 34-36).

As to Claim 8, Tuttle et al. discloses a storage disk comprising disk sectors operable to store data; servo wedges located in the disk sectors and each having a respective location identifiers, respective position bursts, and a respective other portions, the other portions of each servo wedge substantially the same as the other portions of all the other servo wedges and detectable during an initial read-write head positioning (see figs.2A-2B and col.4, lines 25-50).

Tuttle fails to specifically disclose no zero-frequency spin-up fields. However, Leis et al. discloses a disk drive wherein servo wedges may have an optional DC erase field (col.7, lines 45-60 and fig.4, wherein the DC field 731 is optional and col.8, lines 39-43-wherein Leis discloses that DC field cannot be WBP encoded). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the storage disk as disclosed by Tuttle et al with the teachings of Leis et al., because as disclosed by Leis et al, providing a DC field for initial positioning of the head relative to the disk is optional, thus providing a more compact and higher efficiency servo address format enabling the use higher code rates (see col.3, lines 20-35 and lines 50-57).

As to Claim 9-11, Turtle et al. in view of further discloses wherein the other portions of each servo wedge include a preamble (as per claim 10) a synch mark (as per claim 11) a servo address mark (fig.2B and col.4, lines 28-37, 39-40).

As to Claim 12, Turtle et al. further discloses wherein the location identifier of each servo wedge is different from the location of another servo wedge (col.4, lines 34-36 wherein the gray code information is different from another servo wedge).

As to Claim 13, Turtle et al. further discloses wherein position bursts each servo wedge is different from the position bursts of another servo wedge (col.4, lines 42-46- wherein the bursts are

located at precise intervals and locations with respect to the various (different) locations of the centerlines).

As to Claims 25-28 are method claims drawn to the apparatus of claims 1-4, and are rejected for the same reasons of anticipation as set forth in the rejection of claims 1-4, above.

As to Claim 32, has the same limitations as to those treated in the rejection of claim 1, and are met by the reference as discussed above.

As to Claim 14, has limitations similar to those treated in the rejection of Claim 1, and are met by the reference as discussed above. Claim 14, however also recites the following limitations further met by Turtle et al.: a data-storage disk having a surface, data sectors at respective locations of the surface, and servo wedges that each include respective servo data that identifies the location of a respective data sector; a motor coupled to and operable to rotate the disk; a read head operable to generate a read signal that represents the servo data and having a position with respect to the surface of the data-storage disk; a read-head positioning circuit operable to move the read head over the surface of the disk; and a servo circuit coupled to the read head and to the read-head positioning system, the servo circuit including, a servo channel operable to recover the servo data from the read signal, and a processor coupled to the servo channel and operable to detect one of the servo wedges while or after the disk attains an operating speed but before the servo channel recovers servo data from any other of the servo wedges (see figs.2-3 and 14 and col.4, lines 25-50 and col.15, line 35-60, wherein while at a steady speed the detection of servo wedge is performed, but before obtaining the head positioning information).

As to claim 15, Tuttle et al. further discloses the servo channel is operable to recover the servo data from the detected servo wedge; and the servo circuit is operable to, determine an initial

position of the read head from the recovered servo data, and provide the initial position to the read-head positioning circuit (see fig.2b-3, col.4, lines 25-50).

As to claim 16, Tuttle et al. further discloses wherein the servo channel is operable to recover the servo data from the detected servo wedge and to provide the location of the respective data sector to the read-head positioning circuit (see fig.2, wherein the location of the data sector can be obtained from the servo data "3").

As to claim 17 Tuttle et al. further discloses the servo channel is operable to recover the servo data from the detected servo wedge and to provide the location of the respective data sector to the read-head positioning circuit; and the read-head positioning circuit is operable to determine an initial position of the read head from the location of the respective data sector (see fig.2b and col.4, lines 25-50).

As to claim 18, Tuttle et al. further discloses wherein the read-head position circuit and the servo circuit are unable to determine the position of the read head before the processor detects the one servo wedge (see fig.2b, col.4, lines 25-50 and col.14, lines 35-39--wherein positioning information of the read head is obtained through reading the data of the servo wedge)

As to claim 19 Tuttle et al. further discloses wherein the read head comprises a read-write head (see fig.2b and col.4, line 13).

As to Claims 20-24 have the same limitations as to those treated in the rejection of claims 14-19 and are met by the reference as discussed in the rejection of claims 14-19 above.

Allowable Subject Matter

3. Claims 5-7, 29-31, are allowed.

Independent claim 5 is allowable over the prior art since the cited references taken alone or in combination do not teach or suggest: servo wedges detectable without a zero-frequency field upon an initial spin-up located in the disk sectors and *each having a pre-synchronization-mark section with substantially the same bit pattern and length as the pre-synchronization-mark section of the other servo wedges; and no servo wedge having a pre-synchronization-mark section with a significantly different bit pattern or a significantly different length as compared to the pre-synchronization-mark section of the other servo wedges,* in combination with the other limitations in the claim.

Independent claim 29 is allowable over the prior art since the cited references taken alone or in combination do not teach or suggest: *writing a second servo wedge onto the surface of the data-storage disk to define a second disk sector that is operable to store file data, the second servo wedge including third servo data that is operable to identify the second disk sector before a read of file data from or a write of file data to the second disk sector*, in combination with the other limitations in the claim.

Independent claim 30 is allowable over the prior art since the cited references taken alone or in combination do not teach or suggest: writing a second servo wedge onto the surface of the data-storage disk to define a second disk sector that is operable to store file data, *the second servo wedge including second servo data that is operable to identify the second disk sector during a read of file data from or a write of file to the second disk sector and wherein the second servo data is operable to identify the second disk sector during the initial positioning of the head over the disk*, in combination with the other limitations in the claim.

Independent claim 31 is allowable over the prior art since the cited references taken alone or in combination do not teach or suggest: writing a second servo wedge onto the surface of the data-storage disk to define a second disk sector that is operable to store file data, *the second servo wedge including second servo data that is operable to identify the second disk sector during a read of file data from or a write*

of file to the second disk sector and wherein the second servo data is unable to identify the second disk sector during the initial positioning of the head over the disk, in combination with the other limitations in the claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DISMERY E. MERCEDES whose telephone number is (571)272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dismery E. Mercedes/
Primary Examiner, Art Unit 2627